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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,528	11/14/2003	Daniel F. Sievenpiper	B-4345CIP 621324-5	2213
36716	7590	06/07/2006	EXAMINER	
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			TAKAOKA, DEAN O	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/714,528	SIEVENPIPER, DANIEL F.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dean O. Takaoka	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 15, 17-28 and 30-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 17-28 and 30-40 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/25/06, 5/15/06</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 – 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 11 of copending Application No. 10/436,753 in view of Allison et al. (U.S. Patent No. 6,741,207).

This is a provisional obviousness-type double patenting rejection.

Claims 1 – 11 of copending Application No. 10/436,753 recite the limitations in claims 1 – 11 of the current application where the term "broadband" used in the claims of the current Application are directed to the switch arrangement where the mechanical switches (MEMS) do not have frequency limitations per se and where switching used in "broadband" frequency applications such as in well-known telecommunications applications would have been obvious. Allison et al. teaches the most nearly identical antenna array in a specific broadband application such as X-band for commercial

aircraft; and where both inventions are by the same Assignee, thus suggesting the obviousness of the modification.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath in view of Allison et al. (U.S. Patent No. 6,741,207).

Claim 1:

McGrath shows a switch arrangement comprising a plurality of MEMS switches (30) arranged on a substrate (38) about an axis (44) through the substrate (col. 5, lines 5,6) and each MEMS switch being disposed on and spaced equidistantly a common imaginary circle centered on the axis (Figs. 3, 5, 6 et al.), the circle having a diameter which is smaller than one-half wavelength for all frequencies in a passband of the broadband switch (Fig. 5; where  $r_s$  defines the circle and twice  $r_s$  would comprise the diameter; where comparative length  $L_s$  is  $\lambda/4$ , thus where  $2 \times r_s$  is less than  $\lambda/2$ ); a conductive via (42) in the substrate arranged parallel to and on the axis (42 parallel to 44; both co-linear); and connections for connecting a RF port to each one of the plurality of MEMS switches with the conductive via (connected by data lines 54, 56 – Fig. 6) where the device is used only in a generic antenna array but does not teach a specific well-known application such as broadband.

Allison et al. teaches a most nearly identical MEMS switch arrangement, further where the antenna array is used in specific applications such as electronically scanned antennas for X-band (broadband) applications (col. 3, lines 47-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the switch arrangement by McGrath in well-known broadband applications. Such a use would have been obvious where use Allison et al. teaches the most nearly identical antenna array in a specific broadband application such as X-band for commercial aircraft; and where both inventions are by the same Assignee, thus suggesting the obviousness of the modification.

Claim 2:

Where the substrate has a ground plane therein (36), the conductive via (42) passing through the ground plane without contacting the ground plane (col. 5, lines 5, 6 – Fig. 4; and inherent where contact of the via would terminate the connection).

Claim 3:

Further including a plurality of strip lines (24; where the microstrips are strips and are similar to the showing by the Applicant), each one of the plurality of strip lines being coupled to a RF contact of one of the plurality of MEMS switches.

Claim 4:

Where the plurality of strips are radially arranged relative to the axis (Fig. 3, 5).

Claim 5:

Where the plurality of strip lines and plurality of MEMS switches are disposed on a first major surface of the substrate (on the surface of 38).

Claim 6:

Further including a plurality of control lines (32 or 34) disposed on the first major surface of the substrate, each control line being coupled to an associated one of the plurality of MEMS switches and being disposed between two adjacent lines (where 32 or 34 of an given switch/stub is between adjacent switch/stub lines).

Claim 10:

Further including a plurality of control lines arranged in pairs (32, 34) and disposed on the first major surface of the substrate, each control line being connected to an associated MEMS switch (30) and being disposed between two adjacent strip lines (for the same reasons in claim 6).

***Allowable Subject Matter***

Claims 15 – 40 are allowed.

McGrath shows a switch arrangement comprising a plurality of MEMS switches arranged on a substrate about a central point (44), each MEMS switch disposed on a common imaginary circle centered on the central point but does not teach or suggest where at least two transmission lines are coupled to the central point (where the central point of McGrath is a ground via coupling the radiating element 26; shown in Figs 3 and 4).

***Response to Arguments***

The claims indicated as allowable in the previous Office action of January 11, 2006 is withdrawn in view of the newly found reference of McGrath above. Accordingly, a non-final Office action is issued herein.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O. Takaoka whose telephone number is (571) 272-1772. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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May 30, 2006